BILLS OF MORTALITY

BY

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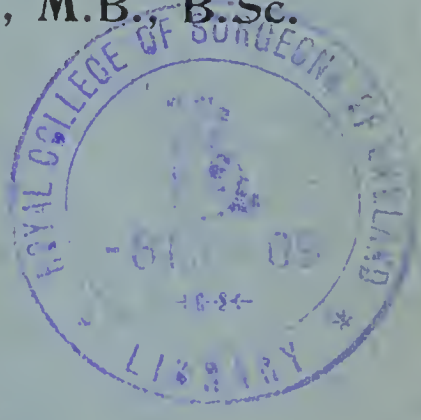

[*Reprinted from* TRANSACTIONS OF THE MEDICO-LEGAL SOCIETY, 1907—1908]

LONDON
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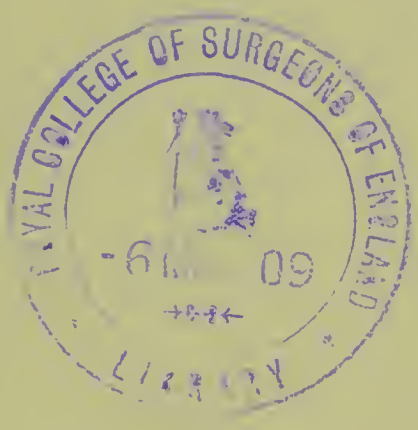
1908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A

GENERAL BILL

OF ALL THE

CHRISTNINGS and BURIALS

From December 9, 1800, to December 15, 1801.

According to the Report made to the KING's Most Excellent Majesty

By the Company of PARISH CLERKS of LONDON, &c.

	Bur.
St ALBAN in Wood Street	9
Alhallows Barkin	67
Alhallows in Bread-ſtreet	5
Alhallows the Great	9
Alhallows in Honey-lane	
Alhallows the Leſs	4
Alhallows in Lombard-ſtreet	3
Alhallows Staining	9
Alhallows on London Wall	21
St Alphage near Sion College	13
St Andrew Hubbard	8
St Andrew Undershaft	14
St Andrew by the Wardrobe	25
St Ann within Alderſgate	11
St Ann in Black-Friars	51
St Anthony, vulgarly Antholin	2
St Auguſtin, vulgarly Auſtin	8
St Bartholomew by Exchange	2
St Benedict, vulg. Bennet Fink	7
St Bennet Gracechurch	6
St Bennet at Paul's Wharf	31
St Bennet Sherehog	2
St Botolph at Billinſgate	1
Chriſt Church Pariſh	63
St Chriſtopher's Pariſh	

	Bur.
St Clement near Eaſtcheap	11
St Dionis Backchurch	14
St Dunſtan in the Eaſt	46
St Edmund the King	6
St Ethelburga's Pariſh	12
St Faith under St Paul's	21
St Gabriel in Fenchurch-ſtreet	3
St George in Botolph-lane	3
St Gregory by St Paul's	28
St Helen near Biſhopſgate	6
St James in Duke's-Place	5
St James at Garlickhith	20
St John Baptiſt by Dowgate	6
St John the Evangeliſt	1
St John Zachary	6
St Katherine Coleman	15
St Katherine Creechurch	24
St Laurence Jewry	14
St Laurence Pountney	8
St Leonard in Eaſtcheap	4
St Leonard in Foſter-lane	4
St Magnus by London-Bridge	7
St Margaret in Lothbury	10
St Margaret Moſes	3

	Bur.
St Margaret in New Fiſh-ſtreet	5
St Margaret Pattens	4
St Martin in Ironmonger-lane	4
St Martin within Ludgate	11
St Martin Orgars	10
St Martin Outwich	5
St Martin Vintrey	23
St Mary Abchurch	6
St Mary Aldermanbury	11
St Mary Aldermary	11
St Mary Le-Bow in Cheapſide	8
St Mary Bothaw at Dowgate	3
St Mary Colechurch	2
St Mary Hill near Billinſgate	25
St Mary Magd. in Milk-ſtreet	
St Mary Magd. Old Fiſh-ſtreet	25
St Mary Mounthaw	16
St Mary Somerſet	16
St Mary Staining	4
St Mary Woolchurch	13
St Mary Woolnoth	
St Matthew in Friday-ſtreet	5
St Michael Baſſiſhaw	3
St Michael in Cornhill	15

	Bur.
St Michael in Crooked-lane	19
St Michael at Queenhith	36
St Michael Le-Quern	3
St Michael Royal	2
St Michael in Wood-ſtreet	5
St Mildred in Bread ſtreet	5
St Mildred in the Poultry	9
St Nicholas Acons	1
St Nicholas Coleabby	7
St Nicholas Olave	4
St Olave in Hart-ſtreet	18
St Olave in the Old Jewry	5
St Olave in Silver-ſtreet	19
St Pancras in Pancras-lane	
St Peter in Cheapſide	3
St Peter in Cornhill	16
St Peter near Paul's Wharf	11
St Peter le Poor in Broad-ſtreet	9
St Stephen in Coleman-ſtreet	31
St Stephen in Walbrook	20
St Swithin at London Stone	13
St Thomas the Apoſtle	3
Trinity Pariſh	5
St Vedaſt, alias Foſter	9

Chriſtned in the 97 Pariſhes within the Walls 1073 —— Buried 1136

St Andrew in Holborn	778	St Botolph without Biſhopſgate	290
St Bartholomew the Great	52	Bridewell Precinct	
St Bartholomew the Leſs	10	St Bridget, vulgarly St Brides	206
St Botolph by Alderſgate	130	St Dunſtan in the Weſt	124
St Botolph by Aldgate	215		

St George in Southwark	479	St Saviour in Southwark	585
St Giles by Cripplegate	230	St Sepulchre's Pariſh	274
St John in Southwark	295	St Thomas in Southwark	136
St Olave in Southwark	321	Trinity in the Minories	17

Chriſtned in the 17 Pariſhes without the Walls 4266 —— Buried 4142

St Ann in Middleſex	211	St George in Queen's-Square	202	St Katherine near the Tower	85
Chriſt Church in Surry	263	St Giles in the Fields	858	St Leonard in Shoreditch	663
Chriſt Church in Middleſex	442	St James at Clerkenwell	436	St Luke in Middleſex	541
St Dunſtan at Stepney	491	St John at Clerkenwell	288	St Mary at Iſlington	212
St George in Bloomſbury	163	St John at Hackney	257	St Mary at Lambeth	706
St George in Middleſex	338	St John at Wapping	89	St Mary Magd. Bermondſey	508

St Mary at Newington	336
St Mary at Rotherhith	315
St Mary at Whitechapel	809
St Matthew at Bethnal Green	435
St Paul at Shadwell	329

Chriſtned in the 23 Out-Pariſhes in Middleſex and Surry 8373 —— Buried 8977

St Anne in Weſtminſter	673	St James in Weſtminſter	1110	St Martin in the Fields	795
St Clement Danes	337	St John Evangeliſt in Weſtm.	337	St Mary le Strand	83
St George by Hanover-ſquare	715	St Margaret in Weſtminſter	751		

The Precinct of the Savoy	170
St Paul in Covent Garden	148

Chriſtned in the 10 Pariſhes in the City and Libertics of Weſtminſter 4102 —— Buried 5119

The DISEASES and CASUALTIES this YEAR.

Abortive and Stilborn	407
Abſceſs	24
Aged	1562
Ague	4
Apoplexy and Suddenly	238
Aſthma and Phthiſick	437
Bedridden	2
Bleeding	14
Burſten and Rupture	21
Cancer	57
Chicken Pox	2
Childbed	170
Colds	6
Colick, Gripes, and Twiſting of the Guts	8
Conſumption	4695
Convulſions	3931
Cough, and Hooping Cough	428
Cramp	1
Croup	14
Deſpair	1

Diabetes	1
Dropſy	865
Eaten by Lice	1
Evil	7
Fevers of all kinds	2908
Fiſtula	3
Flux	10
French Pox	14
Gout	84
Gravel, Stone, and Strangury	12
Grief	3
Headmouldſhot, Horſhoehead, and Water in the Head	72
Head-ach	
Jaundice	79
Jaw Looked	4
Inflammation	557
Lethargy	
Livergrown	4
Lunatick	127

Meaſles	136
Miſcarriage	1
Mortification	223
Palpitation of the Heart	1
Palſy	79
Pleuriſy	22
Quinſy	5
Raſh	
Rheumatiſm	5
Scurvy	4
Small Pox	1461
Sore Throat	4
Sores and Ulcers	6
Spaſm	4
Stoppage in the Stomach	6
Surfeit	1
Swelling	3
Swine Pox	
Teeth	333
Thruſh	28
Vomiting and Looſeneſs	1
Worms	9

BROKEN Limbs	1
Bruiſed	4
Burnt	7
Choaked	1
Drowned	120
Exceſſive Drinking	5
Executed *	11
Found Dead	9
Fractured	3
Frighted	
Frozen	
Killed by Falls and ſeveral other Accidents	59
Killed by Fighting	
Killed themſelves	31
Murdered	4
Poiſoned	3
Scalded	5
Shot	
Smothered	
Starved	5
Suffocated	1
Total	269

Chriſtned	Males 9400	Females 8414	In all 17814
Buried	Males 9661	Females 9713	In all 19374

Whereof have died,

Under Two Years of Age	5395	Twenty and Thirty	1481	Sixty and Seventy	1482	A Hundred	1
Between Two and Five	2063	Thirty and Forty	1924	Seventy and Eighty	1047	A Hundred and One	5
Five and Ten	843	Forty and Fifty	2128	Eighty and Ninety	484	A Hundred and Two	1
Ten and Twenty	639	Fifty and Sixty	1817	Ninety and a Hundred	64		

A Hundred and Seven	
A Hundred and Eighteen	
A Hundred and Twenty	

Decreaſed in the Burials this Year 3694

There have been Executed in Middleſex and Surry, 235 of which Number (11 only) have been reported to be Buried (as ſuch) within the Bills of Mortality.

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To face page 1.

BILLS OF MORTALITY.

The custom of recording births, marriages, and deaths is of very ancient origin. In Genesis v. and xi. are given the births, ages, and deaths of the descendants of Adam to the birth of Noah, and from Noah to the twelve patriarchs. Moses counted the Israelites, and recorded the numbers of each of the tribes. Nehemiah, after the return from the Captivity in Babylon, says: "I found the book of the genealogy of them which came up at the first" (vii. 5).

In Rome, a register of deaths (*ratio Libitinæ*) was kept in the temple of Libitina, the goddess of the dead, and a regulation, ascribed to Servius Tullius, required that for every death a piece of money, known as the *lucar Libitinæ*, should be deposited in the temple. Marcus Aurelius ordained that all free persons should give notice of a birth within thirty days, and a record of these was kept in the temple of Saturn.

In medieval times, registers appear to have been kept in France as early as 1308, but not much can be learned about them. In Spain, Cardinal Ximenes in 1497 ordered registers to be kept in every parish, in order to terminate the disorders arising from the marriage of persons between whom there was spiritual affinity.

Parish registers in England were first instituted by Thomas Cromwell in 1538. In the churchwardens' accounts of the parish of St. Margaret's, Westminster, for that year is the following item:

"Paid for a Book to registre in the names of buryals weddings and Christenings 2^{d}."

Local registers had, however, been kept by various churches and religious houses long before this date.

The parish clerks of London, who were responsible for the

registers, were licensed as a guild as far back as 1232 under the name of "The Fraternity of St. Nicholas." This was dissolved and reincorporated by Henry VIII. James I. gave them a charter which required that only such as were "able to sing the Psalms of David and to write" should be elected members. By a charter of Charles I. the parish clerks were enjoined to make weekly reports of the christenings and burials within their respective parishes, one copy whereof was required to be sent to the King and another to the Archbishop of Canterbury. A report for the whole year, compiled from the weekly returns, was issued in December. These reports are the Bills of Mortality.

Bills of Mortality were prepared for isolated years long before they were issued annually. The early Bills are, however, of extreme rarity, and it is probably impossible to determine now when they were first drawn up. All the usual books of reference give 1592 as the date of the first, but this is clearly an error, for there were at least three earlier than that. Among the Egerton Manuscripts in the British Museum is the following very interesting document, which has hitherto, so far as I am aware, escaped notice. It is undated, but is believed by the Museum authorities to be of the year 1532.

"The Extime* of Courses Beryed of the Plage w^tin the Citie of London

"Syns the xvi^th day of Novēbre vnto the xxiii day of the same moneth ys deed in the citie & fredom yong and old thes mayny folowyng of the plag and oder dyseases

In p̄ mys benetts gr̄e churche i of y^e plag
S buttolls w^thout bysshopsgate i corse
S nycholas flesshamuls i of y^e plag
S peturs in cornell i of y^e plag
Mary Wolnorth i corse
All halowes barkyng ii corses
Kateryn colman i of the plag
Mary Aldmanberg i corse

* Estimate.

Michaels in cornell iii of y^e^ plag
All halowes y^e^ moor ii i of the plag
S gyles iiii eors iii of the plag
S Dñstons in y^e^ west iiii of y^e^ plag
Stevens in colman strete i corse
All halowys lm̃bert strete i corse
Martens owute whiehe i corse
Mergett moyses i of the plag
Kateryn erechurche ii of the plag
Martens in y^e^ vyntre ii eors
Buttolls w^th^out algate iiii corses
S Olav in hert strete ii corses
S Andros in holborn ii of y^e^ plag
S peters at powls wharff ii of y^e^ plag
S ffeythes i corse of y^e^ plag
S Alphes i corse of the plag
S Mathews in fryday strete i of the plag
Aldermary ii corses
Sepuleres iii cors i of the plag
S thom̃s appostells ii of the plag
S leonerds faster lane i of y^e^ plag
Michaels in y^e^ ryall ii corses
S Alborowes i corse of the plag
Swytthyns ii cors of y^e^ plag
Mary som̃setts i corse
S bryde v cors i of the plag
S benetts powls wharff i of the plag
All halows in y^e^ wall i of y^e^ plag
Mary hyll i corse

sm̃ of y^e^ plag xxxiiii psons
sm̃ of oder sckenes xxxii psons
the holl sm̃ iii^xx^ & vi
and ther is this weke clere iii^xx^ and
pysh as by ther bills dothe appere."

It is evident from this manuscript that a considerable number of parishes were at this time issuing weekly Bills.

The next Bill of Mortality appears to have been for the year 1562, and the occasion of its preparation is thus given in Maitland's "History of London," 1754 :

"In the year 1562 a grievous Pestilence raged in this City; therefore, in order to know the Increase or Decrease of the same 'twas judg'd necessary to take an Account of the Number of Burials; which being the First of the Kind that was ever taken in *London*, it commenc'd on the first of *January Anno* 1562, and ended the last of *December* 1563, Whereby it appears that the Number Total buried within the City and Suburbs in that Year amounted to 23,630, whereof of the Plague 20,136."

This Bill is quoted by Stow, but I have not been able to find any instance of the original.

In the Hall of the Parish Clerks, Wood Street, City, is a well-preserved Bill of Mortality for the year 1582. This is probably the oldest Bill now extant. Walford (Transactions of the Royal Historical Society, 1878) mentions it, but no other writer on the subject seems to have been aware of its existence. It runs as follows :

"The nvmber of all thoſe that hath dyed in the Citie of London and the liberties of the same from the 28 of December 1581 vnto the 27 of December 1582, with the Christenings. And alſo the number of thoſe haue dyed of the plague of euery pariſh particulerly.

"Reuela, 14 chap.—Bleſſed are the deade that die in the Lorde euen ſo ſayth the ſpirite for they reſt from their labours.

"There is deade this yeere, that is to say frō the 28 of December 1581 unto the 27 of December 1582 within the Citie and liberties of the ſame	viMDeeeexxx
Of the plague	iiiMLxxv
Chriſtened	iiiMDiii
Pariſhes cleere of the plague	v
Out parishes	CCCCxxx
Of the plague	CCxxxix

"Here followeth the pariſhes with their numbers that hath buried of the Plague. . . ."

Bills of Mortality were not again kept until the plague years,

1592-1594, and these are the Bills which are usually stated to have been the first. There is no copy of these or of any of the foregoing Bills in the British Museum, Guildhall, Record Office, or Somerset House.

The first year in which the Bills of Mortality were issued to the public was 1594. Walford is of the opinion that this was done in order to frighten people from settling in the Metropolis, for Queen Elizabeth was seriously alarmed at the rapid growth of the city.

The area within the first Bills of Mortality consisted only of the city parishes, but in 1605 six contiguous parishes in Middlesex and Surrey were added, and in 1626 the City of Westminster, making the total area 5,875 acres. In 1636, Hackney, Islington, Newington, Stepney, Poplar, Bethnal Green, and Rotherhithe were included, bringing the area up to 22,538 acres. St. Peter ad Vincula was added in 1729, "but a conteſt ariſing between the Inhabitants of the *Tower Liberty without* and thoſe *within* the *Tower*, whether the Church of S^t^ *Peter ad Vincula* was Parochial or not, the Merits thereof were try'd in the Court of *King's-Bench* at *Weſtminſter* in the Year 1730, when it was determin'd in the Negative, which occaſion'd its being left out of the Bill of Mortality ſoon after" (Maitland).

Particulars of diseases and casualties were first included in the Bills in 1629, and the burials of males and females were then given separately. It was at first feared that the publication of the causes of death might give offence, and for some years two sets of Bills were printed, one with and the other without this information. But in 1660 the Bills were remodelled, and henceforth only one Bill was issued. The list of casualties and diseases from the Bill for 1665—the year of the Great Plague—is here given as an illustration of the terminology in use at the time:

Abortive and Stilborne	617	Bloudy Flux, Scowring and Flux	18
Aged	1,545	Burnt and Scalded ...	8
Ague and Feaver ...	5,257	Calenture	3
Appoplex and Suddenly	116	Cancer, Gangrene, and Fistula	56
Bedrid	10	Canker and Thrush ...	111
Blasted	5		
Bleeding	16		

Childbed	625	Livergrowne	20
Chrisomes and Infants...	1,258	Meagrom and Headach	12
Cold and Cough ...	68	Measles	7
Consumption and Tissick	4,808	Murthered and Shot ...	9
Convulsion and Mother	2,036	Overlain and Starved ...	45
Distracted	5	Palsie	30
Dropsie and Timpany ...	1,478	Plague	68,596
Drowned	50	Plannet	6
Executed	21	Plurisie	15
Flox and Smal-pox ...	655	Poysoned	1
Found dead in streets, fields, etc.	20	Quinsie	35
		Rickets	535
French Pox	86	Rising of the Lights ...	397
Frighted	23	Rupture...	34
Gout and Sciatica ...	27	Scurvy	105
Grief	46	Shingles and Swine Pox	2
Griping in the Guts ...	1,288	Sores, Ulcers, broken and bruised Limbs ...	82
Hangd and made away themselves	7	Spleen	14
Headmouldshot and Mouldfallen	14	Spotted Feaver and Purples	1,929
Impostume	227	Stopping of the Stomack	332
Jaundies	110	Stone and Stranguary ...	98
Kild by severall Accidents	46	Surfet	1,251
King's Evill	86	Teeth and Worms ...	2,614
Leprosie	2	Vomiting	51
Lethargy	14	Wenn	1

Christened { Males 5,114 / Females 4,853 / In all 9,967 } Buried { Males 48,569 / Females 48,737 / In all 97,306 } Of the Plague 68,596

Increase in the Burials in the 130 Parishes and at the Pest-house this year 79,009

Increase of the Plague in the 130 Parishes and the Pest-house this year 68,590

In 1728 the ages at death were included, and the Bills were embellished with an ornamental margin of skulls and crossbones,

which was further elaborated in 1747 by the addition of hour-glasses. These features are seen in the accompanying reproduction of the Bill for the year 1801.

Despite their rudimentary character, the Bills of Mortality were frequently the subject of investigation and analysis during the seventeenth and eighteenth centuries. The earliest work of this nature is that by Captain John Graunt, entitled "Natural and Politieal Observations made upon the Bills of Mortality," first published in 1661, and subsequently much enlarged by Sir William Petty. This singularly interesting volume is the first instance of the application of statistieal methods to the phenomena of human society. Its merits were immediately recognized, and the Royal Society promptly elected the author a Fellow, and bore the expense of printing and publishing his book.

Captain Graunt gives the following account of the manner in which the Bills were compiled :

"When any one dies, then either by tolling, or ringing of a Bell, or by beſpeaking of a Grave of the *Sexton*, the same is known to the *Searchers* correſponding with the ſaid *Sexton*.

"The *Searchers* hereupon (who are ancient Matrons ſworn to their Office) repair to the place where the dead Corps lies, and by view of the ſame, and by other enquiries, they examine by what *Diſeaſe* or *Caſualty* the Corps died. Hereupon they make their Report to the *Pariſh Clerk*, and he every *Tuesday* night, carries in an Accompt of all the *Burials* and *Chriſtnings* happening that Week to the *Clerk* of the *Hall*. On *Wednesday* the general Accompt is made up and printed, and on *Thurſday* publiſhed and diſperſed to the ſeveral Families who will pay four Shillings *per annum* for them" :

A further pieture of the searchers is afforded by the regulations issued by the Lord Mayor in 1666 to stay the progress of the plague, and quoted by De Foe in his "Journal of the Plague Year":

"That there be a speeial care to appoint women searchers in every parish such as are of honest reputation, and of the best sort as can be got in this kind ; and these to be sworn to make due search and true report to the utmost of their knowledge whether the persons

whose bodies they are appointed to search do die of the infection, or of what other diseases, as near as they can."

"That no searcher during this time of visitation be permitted to use any public work or employment, or keep any shop or stall, or be employed as a laundress, or in any other common employment whatsoever."

It will scarcely be believed that the functions and character of the searchers continued unchanged until they were swept away by the Registration Act of 1836. John Tilley, Clerk to the Parish Clerks, in giving evidence before the Select Committee on Parochial Registration in 1833, states that "the office of searcher is confined to two old women, generally paupers, who are legally entitled to ask a fee of fourpence, and on their hearing from the parish clerk that there has been a death in any house, they go and demand a sight of the body. Being very needy people they are open of course to any fee that may be given them to dispense with their office altogether. Instead of fourpence if they get one shilling or half-a-crown they go away without looking at the body."

Information collected in such a manner was, of course, bound to be highly inaccurate, and the Bills are unfortunately of very little value for modern statistical purposes. Apart, moreover, from error arising from the ignorance and venality of the searchers, there is evidence that the figures were at times deliberately falsified by the parish clerks in order to conceal the ravages of epidemics. De Foe, for instance, asserts that for weeks after the pestilence had commenced, the deaths were ascribed to other causes, and, when further concealment became impossible, they were systematically understated. He and others estimate that the total number who died of the plague was above 100,000, whereas, according to the Bills, it was but 68,590. The searchers and parish officers were frequently bribed in order to avoid the shutting up of the house, which was compulsory where a death from plague had occurred. The truth of this statement is borne out by the enormous increase which the Bills show of deaths from causes other than the plague. Occasionally, also, a clerk failed to make his weekly return, for which offence he was liable to be fined by the Lord Mayor the sum of one shilling.

It must be noticed that the record is of christenings, not births; hence the figures do not include the births of Quakers, Dissenters, Jews, Roman Catholics, etc. Even those who were "half-christened"—*i.e.*, without sponsors—were not included, and Graunt mentions that many persons failed to notify a birth, chiefly for the reason that a small fee had to be paid.

Captain Graunt was well aware of the inaccuracy of the Bills, but did not consider that his observations were vitiated thereby. He says, for instance: "In case a man of seventy-five years old died of a cough (of which, had he been free, he might possibly have lived to ninety) I esteem it little errour (as to many of our purposes) if this Person be in the Table of *Casualties,* reckoned among the *Aged*, and not placed under the Title of *Coughs.*" And again, "if one died *suddenly*, the matter is not great whether it be reported in the Bills, *Suddenly*, *Apoplexy*, or *Planet-strucken*, etc." He accordingly made a thorough analysis of the Bills which were at his disposal, and many of his deductions are in agreement with modern knowledge. He estimates the population within the area of the Bills to be 384,000, among whom are 24,000 "teeming" women. He finds an excess of births of males over females in the proportion of fourteen to thirteen. He notes the higher mortality of males in the somewhat unhappily-chosen words "Physicians have two Women Patients to one Man; and yet more Men die than Women." He observes that after a visitation of the plague the population of the city is always restored within two years; that 7 per cent. die of age; that abortives and stillborn are to those that are christened as one to twenty; that a disposition in the air towards the plague doth also dispose women to abortions; that every wedding one with another produces four children; that in the country but about one of fifty dies yearly, but in London one of thirty over and above the plague; that London is not so healthful now as heretofore, which may be due to the burning of sea-coal; and that the unhealthy season is Autumn. He deplores the seemingly small mortality from "French pox" (syphilis) in view of the great frequency of the disease, as he fears that the publication of such figures is likely to encourage immorality, and "forasmuch as it is not good to let the World be lulled into a security and belief of

impunity by our *Bills*, which we intend ſhall not be only as *Deaths-heads* to put men in mind of their *Mortality*, but alſo as *Mercurial Statues* to point out the most dangerous waies that lead us into it and miſery." He is at pains therefore to show that the number is understated, that some of sueh deaths are recorded under "Ulcers" and "Sores," and many others under "Consumption" for "the old-women *Searchers* after the miſt of a Cup of *Ale*, and the bribe of a Two-groat fee, instead of one given them, cannot tell whether this emaciation or leanness were from a *Phthiſis* or from a *Hectick Fever*, *Atrophy* etc., or from an Infection of the *Spermatick* parts."

The next writer on Bills of Mortality was Edmund Halley, the astronomer. Using the Bills of Breslau, in Silesia, in which the ages at death were recorded, he construeted, in 1693, the first life-tables which have any pretensions to seientific accuracy.

A later account of Bills of Mortality is given in Strype's "Stow." The ehristenings in 1729 were—of males, 8,736, and of females, 8,324; 28,000 die annually, of whom 10,000 are children under two years of age, and about 2,500 more under five years of age. The population of the eity, including the out-parishes of Middlesex and Surrey and the City of Westminster, is estimated to be 1,045,075, and a deseription of the method of arriving at the figures from the annual mortality is given. Mention is also made of other attempts to estimate the population from the number of houses in the eity. The number of oxen killed annually, 60,000 or 70,000; the quantity of coals burned, 400,000 chaldron; and the amount of strong beer and ale brewed, 1,200,000 barrels.

Corbyn Morris, in 1751, made an analysis of the burials and christenings in his "Observations on the Past Growth and Present State of the City of London." His tone is pessimistie. He considers that the population is deereasing, and, among other reasons for this unhappy state, he gives the following:

"The diſcouragement to matrimony in London is a grand operating cause of the diminution of the ehristenings and eonſequently of the exeeſs of the burials. The unmarried ladies and gentlemen in this eity of moderate fortunes, whieh are the great bulk, are unable to ſupport the expense of a family with any magnifieence, and there-

fore cannot intermarry together without retiring from high life, and submitting to relinquish thoſe pleaſures of the town to which their appetites have long been raiſed; they therefore acquieſe in celibaey; each ſex compenſating itself as it can by other diverſions. Persons also of inferior ſituation in London have their taſte for pleaſures inflamed, and avoid with caution the marriage state with their equals. . . . But above all the present increasing diminution of the ehristenings in London beneath the burials with many other evils is partieularly to be attributed to the enormous uſe of ſpirituous liquors. For it is beyond all diſpute that ſuch liquors are become the eommon drink, and even the food too if it may be ſo termed of these people."

Some interesting information coneerning the Bills of Mortality is given by William Maitland in the "History and Survey of London," 1760. When seareling for the earlier records he found that "the Register belonging to the Company of Parish Clerks eommencing only in the year 1664, the first Part thereof being lost, the Company are of Opinion that the same was lent to Mr. *Graunt* to enable him to write his *Natural and Political Observations* but by some Aecident never return'd." Maitland points out that many important burial-grounds, sueh as those of St. Paul's Cathedral, Westminster Abbey, the Temple Chureh, the Rolls and Lincoln's Inn Chapels, the Charter-house, and various hospitals, though belonging to the Chureh of England, are not ineluded in the Bills "whereby the Number of Persons that die within this City and Suburbs is greatly diminished to the no small lessening the grandeur of *London* in the Eyes of the World in respect to the Number of its Inhabitants!" Everywhere mortality was regarded as an index of population, and a low death-rate derogated from the dignity of the city. A series of elaborate calculations gave Maitland the figure 725,903 as the number of inhabitants of the City of London.

In 1771, Dr. Riehard Price published his "Observations on Reversionary Payments," and this and subsequent papers were of great value in ealling attention to the inadequate data upon whieh several reeently-formed benefit and insuranee eompanies were relying. It is eurious to notiee that when the Equitable Society of London,

founded in 1762, applied for a charter, it was refused by the law officers of the Crown, on the ground that the success of the scheme depended upon the accuracy of certain tables of life and death "whereby the Chance of Mortality is attempted to be reduced to a certain standard. This is a mere speculation, never tried in practice" ("Encyclopædia Britannica"). Dr. Price's tables based upon the Northampton Bills of Mortality were subsequently employed for calculating Government annuities. This writer also deplores the decline in the population, in language which has a curiously modern ring. He says: "In consequence of the easy communication lately created between the different parts of the kingdom, the London fashions and manners and pleasures have been propagated everywhere, and almost every distant town and village now vies with the capital in all kinds of expensive dissipations and amusement. This enervates and debilitates; and together with our taxes raises everywhere the price of the means of subsistence, checks marriage, and brings on poverty, dependance and venality."

Another writer about this period makes the curious statement that, owing to the multiplication of chapels, it was no uncommon thing in some parts of the country for christenings (and sometimes burials) to be registered twice over—first in the chapel register, and afterwards, for greater security, in that of the mother-church.

In 1773 Dr. Thomas Percival made an extensive investigation into the vital statistics of Manchester and adjacent places. He finds that each marriage produces about four and three-quarter children, and, unlike most of his contemporaries, comes to the conclusion that the population is increasing. He suggests that fertility has been promoted by the general use of tea, or possibly pepper and other spices.

Later writers on the Bills of Mortality were Dr. Mann-Burrows, in 1818, and Dr. Cleland, in 1836.

A few words must now be said concerning the names of diseases employed in the Bills of Mortality. These seem to have been selected with but little regard for even such scientific and medical knowledge as there was at the time. Ill-defined phrases and popular names abound. Though many of the terms soon became obsolete,

yet, on comparing the two Bills given, it will be seen that very few changes were made during the period covered by the Bills. Much was left to the discretion of the searchers. "Aged" and "infant" for instance, had no fixed limit in years, but depended upon the opinion of the "ancient matron"; a chrisome, however, was a child under the age of one month.

Some of the affections cannot now be identified with certainty, and they even puzzled contemporary writers. Graunt, for instance, says: "There seems also to be another new Disease called by our Bills *The Stopping of the Stomach*, first mentioned in the year 1636, the which *Malady*, from that year to 1647, increased but from 6 to 29; *Anno* 1655 it came to 145. In 57 to 277. In 60 to 314. Now these proportions far exceeding the difference of proportions generally arising from the increase of inhabitants, and from the report of *Advenæ* to the City shews there is some new Disease which appeareth to the Vulgar as *Stopping of the Stomach*. Hereupon I apprehended that this *Stopping* might be the *Green-sickness*, forasmuch as I find few or none to have been returned upon that account, although many be visibly stained with it. Now, whether the same be forborn out of shame I know not: For since the World believes that Marriage cures it, it may seem indeed a shame that any Maid should dye uncured when there are more *Males* than *Females*, that is an overplus of Husbands to all that can be Wives. In the next place I conjectured that this *Stopping of the Stomach* might be the *Mother*, forasmuch as I have heard of many troubled with *Mother-fits* (as they call them), although few returned to have died from them; which conjecture, if it be true, we may then safely say, that the *Mother-fits* have also increased. But I was somewhat taken off from thinking this *Stopping of the Stomach* to be the *Mother*, because I ghessed rather the *Rising of the Lights* might be it. For I remembered that some Women troubled with the *Mother-fits* did complain of a choaking in their throats." In the end he is obliged to leave the question to be fought out by the physicians, having, however, provided us with a vivid picture of the confusion and uncertainty which existed.

"Mother" is given by Murray and other lexicographers as an hysterical malady, accompanied by feelings of suffocation. Mair

states that it was a disease of women, but this is presumably an error, for Shakespeare makes King Lear say :

> "O, how this mother swells up toward my heart !
> *Hysterica passio !* down, thou climbing sorrow !"

It was clearly of a convulsive nature, and possibly was epilepsy.

The "lights" were the lungs. "Rising of the lights" is variously given as heartburn, choking feeling in the throat, and globus hystericus. Probably it was applied to any condition accompanied by dyspnœa.

An "imposthume" was an abscess; "calenture," sunstroke; "planet-struck," paralysis; "livergrown," rickets (Graunt); "evil" and "King's evil," tuberculosis; "headmouldshot" and "horseshoe-head," hydrocephalus; "flux," dysentery; and "swine-pox," chicken-pox. "Despair" and "grief" we should now call melancholia.

It will be readily understood that a system of registration so highly defective as the Bills of Mortality was frequently and vigorously assailed by members of the medical profession. Many proposals were put forward to improve the Bills and to give them a more scientific character, but for various reasons these all came to naught. The fate of an attempt which was made in 1754 illustrates the kind of prejudice which was apt to be encountered. A group of physicians, in conjunction with the parish clerks, presented a Bill to Parliament requiring that all the parishes in England should be obliged to keep exact registers of births, deaths, and marriages, instead of christenings and burials only, and that an annual general Bill should be prepared for the whole country. At the same time the list of diseases was revised, and many obsolete terms were proposed to be deleted. The Bill was at first received with favour, and was ordered to be printed; but, unfortunately, a clause which required that the people should be numbered aroused hostility on religious grounds. "Sin of David!" became the cry, and in the end the Bill was defeated by a large majority (*vide Gentleman's Magazine*, 1754). In this connection it is interesting to recall that the civil registration of births in the Act of 1836 met with considerable ecclesiastical opposition on the ground that baptism and naming of the child were separated. It was feared that having registered the birth and named the child, parents would fail to celebrate the rites of baptism.

One point more may be mentioned. It will be noticed that a discrepancy appears in the Bills between the number of executions and the burials of executed persons. Most of the bodies unaccounted for went to the dissecting-rooms, in pursuance of the sentence "that you be hanged by the neck until you are dead, and that your body shall afterwards be dissected and anatomized." The fate of the bodies of traitors is indicated by the following sentence (*vide* case of Walcot I. Eng. Rep., p. 89): "Quod . . . ibidem super bigam ponatur, et abinde usque ad furcas de [Tyburn] trahatur, et ibidem per collum suspendatur, et vivens ad terram prosternatur, et quod secreta membra ejus amputentur, et interiora sua extra ventrem suum capiantur et in ignem ponantur, et ibidem ipso vivente comburantur, et quod caput ejus amputetur, quodque corpus ejus in quatuor partes dividatur, et illo ponantur ubi Dominus Rex eas assignare voluit." The places usually selected were the gates of cities, and in London, London Bridge and Westminster Hall. This sentence was not completely abolished until 1870.

The first of the Registrar-General's reports under the Births and Deaths Registration Act of 1836 was published in 1839, and thereafter Bills of Mortality cease to have any interest. They continued to appear, however, in an abbreviated form until 1850, when the yearly Bills were abolished, and in 1859 the making and returning of the weekly Bills was ordered by the company to be discontinued. From first to last, the Bills had covered a period of over three centuries.

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